UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

JUN 2 3 2017

CERTIFIED MAIL 7014 0150 0000 2452 5400 RETURN RECEIPT REQUESTED

Mr. Chris Robblee
General Manager – Gulf Coast
Vopak Logistics Services USA Inc.
Deer Park Facility
P.O. Box 897
Deer Park, TX 77536-0897

RE: Vopak Petition Reissuance Final Approval Decision for WDW-157

Dear Mr. Robblee:

The land disposal restrictions prohibit the injection of hazardous waste unless a petitioner can demonstrate to EPA, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the injection zone for as long as the wastes remain hazardous. The land disposal restrictions for injection wells codified in 40 CFR Part 148 provide the standards and procedures by which petitions to dispose of an otherwise prohibited waste by injection will be reviewed and by which exemptions pursuant to these petitions will be granted or denied. Part 148 also provides for the reissuance of an exemption if the reissuance complies with the above-mentioned standards.

A letter dated April 24, 2017, informed Vopak that EPA was proposing to approve its petition reissuance request for an exemption to the land disposal restrictions. The public comment period associated with this decision began on May 3, 2017, and closed on June 19, 2017, and no comments were received.

Based on a detailed technical review of the petition reissuance request and support documents, EPA has determined that this information for the Vopak site meets the requirements of 40 CFR Part 148 by demonstrating that, to a reasonable degree of certainty, there will be no migration of hazardous constituents from the injection zone for 10,000 years.

The following are conditions of this land disposal restrictions exemption reissuance.

Petition Reissuance Final Approval Conditions

This final approval of a petition for reissuance of an exemption to allow the injection of restricted hazardous wastes is subject to the following conditions, which are necessary to assure that the standard in 40 CFR §148.20(a) is met. Noncompliance with any of these conditions is grounds for termination of the exemption in accordance with 40 CFR §148.24(a)(1). This exemption is applicable to the Vopak injection well WDW-157, located at the Deer Park site in Deer Park, Texas.

1. Injection of restricted waste shall be limited to the following injection zone:

Well	Depth of Injection Zone
WDW-157	4230' - 7505'[1]

([1]WDW-157 Injection Zone depths are referenced to Kelly Bushing (KB) depths on WDW-157's Schlumberger Dual Induction-SFL Compensated Neutron-Formation Density log dated 1/23/80)

The injection interval shall be defined by the following correlative log depths:

Well	Injection Intervals	Depth of Injection Interval
WDW-157	Upper and Middle Frio Sands	5530' - 6670'[1]
	Lower Frio Sand	6870' - 7505'[1]

([1]WDW-157 Injection Interval depths are referenced to Kelly Bushing (KB) depths on WDW-157's Schlumberger Dual Induction-SFL Compensated Neutron-Formation Density log dated 1/23/80)

2. For WDW-157, the cumulative monthly volume injected into each of the injection intervals shall not exceed that calculated as follows:

Upper and Middle Frio Sands: (175 gpm)(1440 minutes/day)(number of days in that month)[1]
Lower Frio Sand: (450 gpm)(1440 minutes/day)(number of days in that month)

([1]The Upper and Middle Frio Sands are limited to a 2 year operational life and may not be used as a Vopak injection interval if they are in use as an injection interval by the offset Texas Molecular facility)

3. The facility shall cease injection into WDW-157 by December 31, 2030. Additionally, the Upper and Middle Frio Sands injection interval is limited to a 2 year operational life and may not be used by Vopak as an injection interval when the interval is in use as an active injection interval by the offset Texas Molecular facility.

4. The facility shall also cease injection into the Upper and Middle Frio injection interval when a WDW-157 cumulative injection volume limit of 183,960,000 gallons is reached.

5. The characteristics of the injected waste stream shall for WDW-157 at all times conform to those discussed in Sections 3.5 through 3.5.5.3 of the petition reissuance document for WDW-157. The specific gravity and corresponding density of the waste stream injected into each interval shall remain within the following equivalent ranges:

   - Specific gravity range of 0.950 to 1.250 measured at a surface temperature and pressure of 68^0F and 1 atmosphere with a reference temperature of 4^0C
   - Specific gravity range of 0.952 to 1.252 measured at a surface temperature and pressure of 68^0F and 1 atmosphere with a reference temperature of 68^0F

- Specific gravity range of 0.953 to 1.253 measured at a surface temperature and pressure of 60^0F and 1 atmosphere with a reference temperature of 4^0C
- Specific gravity range of 0.954 to 1.254 measured at a surface temperature and pressure of 60^0F and 1 atmosphere with a reference temperature of 60^0F
- Density range of 0.950 g/cm^3 to 1.250 g/cm^3 measured at 68^0F
- Density range of 0.953 g/cm^3 to 1.253 g/cm^3 measured at 60^0F

For the purpose of the above calculation, each day's specific gravity/density value shall be obtained by at least one representative grab sample for each active injection interval.

6. The approval for injection is limited to the following hazardous wastes:

D001, D002, D003, D004, D005, D006, D007, D008, D009, D010, D011, D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043

F001, F002, F003, F004, F005, F006, F007, F008, F009, F010, F011, F012, F019, F020, F021, F022, F023, F024, F025, F026, F027, F028, F032, F034, F035, F037, F038, F039 (for constituents listed in Table 3-5.1-I)

K001, K002, K003, K004, K005, K006, K007, K008, K009, K010, K011, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K026, K027, K028, K029, K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041, K042, K043, K044, K045, K046, K047, K048, K049, K050, K051, K052, K060, K061, K062, K069, K071, K073, K083, K084, K085, K086, K087, K088, K093, K094, K095, K096, K097, K098, K099, K100, K101, K102, K103, K104, K105, K106, K107, K108, K109, K110, K111, K112, K113, K114, K115, K116, K117, K118, K123, K124, K125, K126, K131, K132, K136, K141, K142, K143, K144, K145, K147, K148, K149, K150, K151, K156, K157, K158, K159, K161, K169, K170, K171, K172, K174, K175, K176, K177, K178, K181

P001, P002, P003, P004, P005, P006, P007, P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P020, P021, P022, P023, P024, P026, P027, P028, P029, P030, P031, P033, P034, P036, P037, P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048, P049, P050, P051, P054, P056, P057, P058, P059, P060, P062, P063, P064, P065, P066, P067, P068, P069, P070, P071, P072, P073, P074, P075, P076, P077, P078, P081, P082, P084, P085, P087, P088, P089, P092, P093, P094, P095, P096, P097, P098, P099, P101, P102, P103, P104, P105, P106, P108, P109, P110, P111, P112, P113, P114, P115, P116, P118, P119, P120, P121, P122, P123, P127, P128, P185, P188, P189, P190, P191, P192, P194, P196, P197, P198, P199, P201, P202, P203, P204, P205

U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U028, U029, U030, U031, U032, U033, U034, U035, U036, U037, U038, U039, U041, U042, U043, U044, U045, U046, U047, U048, U049, U050, U051, U052, U053, U055, U056, U057, U058, U059, U060, U061, U062, U063, U064, U066, U067, U068, U069, U070, U071, U072, U073, U074, U075, U076, U077, U078, U079, U080, U081, U082,

U083, U084, U085, U086, U087, U088, U089, U090, U091, U092, U093, U094, U095, U096, U097, U098, U099, U101, U102, U103, U105, U106, U107, U108, U109, U110, U111, U112, U113, U114, U115, U116, U117, U118, U119, U120, U121, U122, U123, U124, U125, U126, U127, U128, U129, U130, U131, U132, U133, U134, U135, U136, U137, U138, U140, U141, U142, U143, U144, U145, U146, U147, U148, U149, U150, U151, U152, U153, U154, U155, U156, U157, U158, U159, U160, U161, U162, U163, U164, U165, U166, U167, U168, U169, U170, U171, U172, U173, U174, U176, U177, U178, U179, U180, U181, U182, U183, U184, U185, U186, U187, U188, U189, U190, U191, U192, U193, U194, U196, U197, U200, U201, U203, U204, U205, U206, U207, U208, U209, U210, U211, U213, U214, U215, U216, U217, U218, U219, U220, U221, U222, U223, U225, U226, U227, U228, U234, U235, U236, U237, U238, U239, U240, U243, U244, U246, U247, U248, U249, U271, U278, U279, U280, U328, U353, U359, U364, U367, U372, U373, U387, U389, U394, U395, U404, U409, U410, U411

7. The facility must petition for approval to inject additional hazardous wastes which are not included in Condition No. 6, above. The facility must also petition for approval to increase the concentration of any waste which would necessitate the recalculation of the limiting concentration reduction factor and the extent of the waste plume. Petition reissuances and modifications should be made pursuant to §148.20 (e) or (f).

8. Vopak shall annually submit to EPA the results of a bottomhole pressure survey for WDW-157. This survey shall be performed after shutting in the well for a period of time sufficient to allow the pressure in the injection interval to reach equilibrium, in accordance with 40 CFR §146.68(e)(1). The annual report should include a comparison of reservoir parameters determined from the falloff test with parameters used in the approved no migration petition reissuance. This should include a comparison of the current year's test results for the static and flowing bottomhole pressures with the values demonstrated in the approved petition reissuance and a comparison of the test results for transmissibility [Kh/μ (mD-ft/cP)] with the transmissibilities used in the approved petition reissuance demonstration for the pressure buildup and 10,000 year plume modeling.

9. Vopak shall also annually submit to EPA a radioactive tracer survey and annulus pressure test for WDW-157. Vopak shall also submit the five-year temperature survey and any casing inspection logs run to EPA.

10. Vopak shall notify EPA in the event that WDW-157 loses mechanical integrity, prior to any well work on WDW-157, or if Vopak plans to plug WDW-157. If any well work or plugging is being planned, Vopak shall also submit the procedures to EPA for review prior to commencing any work.

11. Upon the expiration, cancellation, reissuance, or modifications of the Texas Commission on Environmental Quality Underground Injection Control permit for WDW-157, this exemption is subject to review. A new demonstration may be required if information shows that the basis for granting the exemption is no longer valid under 40 CFR §148.23 and §148.24.

In addition to the above conditions, this final approval of a petition for reissuance of an exemption is contingent on the validity of the information submitted in the Vopak petition reissuance request for an exemption to the land disposal restrictions. This final reissuance decision is subject to termination when

any of the conditions occur which are listed in 40 CFR §148.24, including noncompliance, misrepresentation of relevant facts, or a determination that new information shows that the basis for approval is no longer valid.

If you have any questions or comments, please call Brian Graves at (214) 665-7193 or email him at graves.brian@epa.gov.

Sincerely yours,

William K. Honker, P.E.
Director
Water Division

ecc: Mr. Clifton Ferrell, Vopak Logistics Services USA Inc.
Ms. Lorrie Council, TCEQ
Mr. Richard Heitzenrater, TCEQ Region 14